

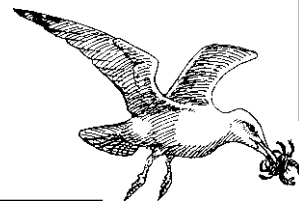
SECTION 4

THE NEWARK BAY, A COMPLEX STUDY

Newark Bay is one of the busiest ports in the world. In 1895, the value of imports and exports going through the port was 934 million dollars and in 1993 it had climbed to an estimated 56.3 billion. Port Newark currently provides 180,000 jobs and about five billion dollars are paid out in wages and salaries.¹ Newark Bay and its associated waterways are also some of the most polluted water systems in the country. Much of the sediment is highly contaminated with toxic and hazardous substances, including

heavy metals (mercury, chromium, and cadmium) and synthetic organic compounds (PCB's, dioxins, and chlordane).

Historically, the Newark Bay supported a major shellfish industry although today all commercial fishing is banned on the New Jersey side. Recreational fishing continues to be a favorite pastime for people whether they fish from boats and docks or along jetties and shorelines.

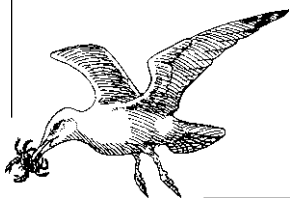


Considering the pollution concerns, the Fish Consumption Advisories were developed to warn anglers about the potential health risks associated with eating parts of various species of fish from this and other polluted waterways in New Jersey.

Even with tremendous impacts on the ecosystems of the Newark Bay Complex, it continues to be a rich and diverse area that includes salt marsh, fresh water marsh, brushland, estuary, open water, and upland habitats. Natural history enthusiasts view the area as a unique combination of wilderness in an urban setting. Under some circumstances, existing open space has been preserved, while new habitats have been created (a practice called mitigation). Many people have learned to recognize the intrinsic value of the land and water systems and "eco-tourism" is on the rise. Birdwatchers, hikers, photographers, and boaters all want a say in how the land and water are impacted. Like anglers, these people invest money and resources to pursue their hobbies.

In an area such as the Newark Bay Complex, every issue, concern, or problem involves a multitude of stakeholders. Stakeholders may represent local, regional, and/or statewide agencies and groups as well as individual citizens from the community. Each stakeholder may hold a different view concerning an issue in the region so that it becomes a challenge to sort through all the options to discover a best-use practice that is agreeable to all sides. Before most decisions can be made, stakeholders and other concerned citizens must first be made aware of the issue and given basic information about the issue; only then will stakeholders and general public be able to make informed decisions about the issue.

¹ McDonnell, Janice. "The Dredging Dilemma". Project CORE (Community Organized to Regain the Environment). Institute of Marine and Coastal Sciences, Rutgers University, New Brunswick, NJ.



NEWARK BAY'S COMPLEXITIES

BACKGROUND INFORMATION

See "A Closer Look."



LEVEL

6 to 8

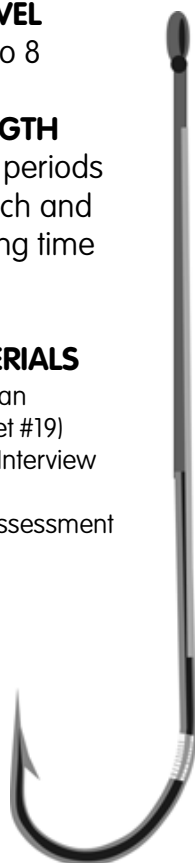
LENGTH

6 class periods
research and
planning time



MATERIALS

- o Project Work Plan (Discovery Sheet #19)
- o How To Do An Interview (Figure 16A)
- o Presentation Assessment (Figure 16B)



OVERVIEW

Students increase awareness and create education plans and products based on land use issues in the Newark Bay Complex.

OBJECTIVES

Students will:



Identify and describe current land use issues in the Newark Bay Complex;



Prepare and present a project plan to address a specific issue;



Create an awareness / education project to address the land use issue.



ADVISORY LINK

Newark Bay's ecosystem and surrounding habitats are impacted greatly by human actions. There is ongoing debate regarding environmental, economic and health concerns. Often these debates are so technical and on such a grand scale that it is difficult for the general public to be intimately involved. The Fish Consumption Advisories are a way to increase awareness about an issue in which "everyday" people can take action.

KEYWORDS

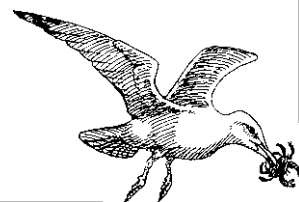
land use
stakeholder

STUDENT PREREQUISITES

A background in research skills
A background in oral presentation and evaluation

PROCESS SKILLS

gathering and interpreting information
categorizing
formulating hypotheses
analyzing
synthesizing
evaluating



PLANNING



1. Instruct students to bring to class current event articles that deal with land use issues in the Newark Bay Complex.
2. Make copies of Project Plan (Discovery Sheet #19), How to Conduct an Interview (Figure 16A), and Presentation Assessment (Fig. 16B).

PROCEDURE SETTING THE STAGE

Locate the Newark Bay on a map. Discuss the significance of its location in regards to the New York metropolitan area. Generate a list of uses around the Bay [*Newark Airport, Port of Newark, refineries, landfills, transportation, homes, wildlife preserves, fishing areas, marshes, boating areas, shopping malls*].



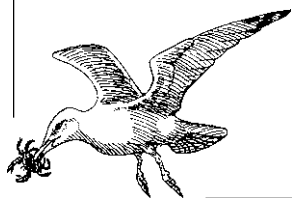
THE ACTION

Period 1

1. Have each student summarize his or her article about a Newark Bay Complex land use issue. List all the issues on the board.
2. Have the class take a vote to select one issue that interests them the most.
3. Ask the students to identify the various points of view described in the article. Example: an article on the building of a shopping mall may include points of view from retail organizations, contractors, environmental organizations, residents, etc.
4. Divide the students into small work groups. Assign each group one stakeholder point of view.
5. Explain that each student group will research their facet of the issue and design an education tool to inform their community about their issue or concern. Sample projects include: teaching younger students about the issue, creating a poster or visual display to put in the school hallway or local library, producing a video on the issue or creating a PowerPoint presentation about the issue.

Period 2

1. Throughout the project, students will be responsible for periodic progress reports as well as self and group assessment reports. Explain that after doing their research each group will explain to the class their facet of the issue, the education tool they plan to use, the audience it targets, and the method they would employ if they were going to present this tool to the community.
2. Distribute a Project Work Plan (Discovery Sheet #19) to each student in the group and discuss the outline points.
3. Have the individuals in each group complete their Project Work Plan according to group consensus.



4. Groups will be responsible for their progress with the following methods:
 - Individual Journal - each student should keep an ongoing record of his or her thoughts on the issue and how what they learned about it affects their personal attitudes and values. These are personal and are not usually read by anyone but the teacher.
 - Periodic Progress Reports - each group should be responsible for updating the class on their progress.
 - Group Evaluation - an internal periodic assessment of the group's progress - what things are going well, where the group needs improvement, and what actions can be implemented to address changes that need to be made.

Independent research time

Designate an appropriate time for students to gather their information and design a five-minute multimedia presentation. (Minimum time: three weeks because it may require that much time for organizations to respond to the students' requests for information.)

1. Discuss research guidelines with the group. Possible methods that the students could utilize would be: interviews (both phone and in-person), review of magazine and newspaper articles about the subject, internet research, meeting attendance, contacting organizations for pamphlets and other information (see Organizations to Contact, Appendix D). Note: If you want students to do phone interviews, arrange for them to use a school phone.
2. Review How To Do An Interview (Figure 16A). Distribute a copy to students and tell them that they should use a separate sheet for each interview that they do.
3. Distribute a copy of the Presentation Assessment (Figure 16B) so students will know how other students will assess their presentation.

Period 3

1. Discuss the reasons why assessment and constructive criticism are integral to an effective project [*increases input from other perspectives, people unfamiliar with the plan may see "holes" in the process, identification of resources that may not have been thought of originally*].
2. Distribute the Presentation Assessment sheet (Figure 16B) for students to complete after each presentation.
3. Have each group designate a note-taker who will keep track of the comments or concerns that other classmates offer that could strengthen their plan.
4. Have each group present their project work plan. Allow time for question and answers.

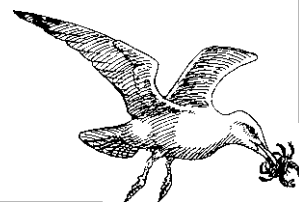
Period 4

Have each group reassess their plan and design their final product based on class discussion and assessment.

Period 5

(with independent work time, if needed)

Allow time for students to create their final product.



Period 6

Have each group present their finished product to the class. If appropriate, consider inviting appropriate local stakeholders in to observe the final presentation.

CLOSING DISCUSSION

1. What skills did you use to obtain good research information? [*general understanding of the issue, ability to find new resources, flexibility to pursue ideas/data found in initial research, an understanding of the best resources to use for the job at hand*]
2. What skills do you need to be a good presenter? [*clear speaking, organized, know your information, charismatic, utilize different presentation methods, know your audience*]
3. What skills do you need to be a good listener? [*listen for biases, be prepared to ask questions for clarification of points*]
4. What are the characteristics exhibited by the best education products? [*clarity, appeal to the audience for which they are intended*]

ASSESSMENT STRATEGIES

Have the students:

- ☐ Keep a detailed log of their work project plan including their progress reports, interview sheets, resource lists, draft copy of their presentation, observer assessment sheet, and impressions of the process.

RELATED EDUCATION RESOURCES

- *Beneath the Shell*
- *Marine Education Resource Guide*
- *New Jersey WATERS*
- *Project WET*

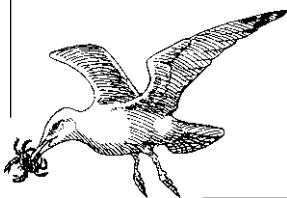
STAYING INVOLVED



Invite a local newspaper to attend the proceedings in the classroom and write a story about the students' final projects.



Attend the meeting of one of the special interest groups to learn about current problems and projects.



PROJECT WORK PLAN

Discovery Sheet #19

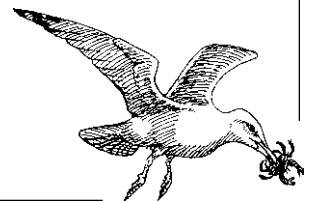
NAMES:

ISSUE:

YOUR GROUP'S POINT OF VIEW:

RATIONALE (Why is this issue important to you and to your community?):

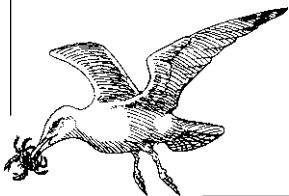
	TEACHER INITIALS	PROGRESS REPORT	DATE TO FINISH
<p>EDUCATION TOOL – What tool(s) are you going to create to help educate people about your issue?</p> <p>Tool</p> <p>Target Audience</p> <p>What method will you use to deliver your education tool?</p>			
<p>RESOURCES – What will you need to complete your project?</p> <p>Materials</p> <p>Skills</p> <p>Outside expertise?</p>			
<p>PROJECT TASKS</p> <p>What are the steps you will take to complete your project and design your oral presentation? Who is responsible for each step?</p> <p>Use a separate sheet if necessary.</p>			



GUIDELINES ON HOW TO DO AN INTERVIEW

Date:_____ Time:_____

1. Name of organization:
2. Name and title of person you are interviewing:
3. Introduce yourself (your name, your grade, your school):
4. Explain why you are contacting that person:
5. Ask the person if he/she can speak to you now for about five minutes. If not, when is a more convenient time for you to call back?
6. Ask your questions and take notes on Figure 16A. Limit your questions to a manageable number (maximum four questions). Make sure your questions are clear. If your question can be answered by yes or no, change the wording. Show your questions to the group, friends or parents to make sure that they are clear and relevant, not confusing.
 - Question 1
 - Question 2
 - Question 3
 - Question 4
7. Request to receive printed material that the organization has which relates to your topic.
8. Spell your name and address.
9. Confirm the organization's address:
Address: _____
Town/City:_____ State _____ Zip Code _____
10. Thank the person.
11. Write a follow-up note to that person to let them know how the project progresses and that you appreciate him/her giving the time to you. Invite them to observe your final presentation (with approval of your teacher).



GUIDELINES ON HOW TO DO AN INTERVIEW

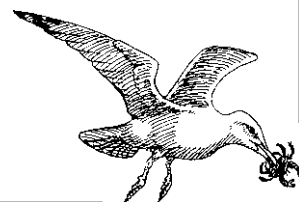
NOTES:

Question 1:

Question 2:

Question 3:

Question 4:



PRESENTATION ASSESSMENT

NAME:

NAME OF THE GROUP:

TITLE OF THE PROJECT:

Rate each aspect of the plan on a scale of 1 to 4. Circle the best response.

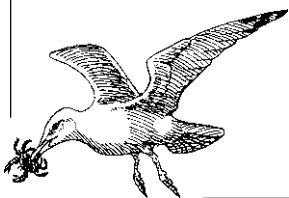
- 1 I don't think so.**
- 2 Possibly**
- 3 Likely**
- 4 Definitely**

1. Will the tool be interesting to the group's target audience? 1 2 3 4
Why or why not?
2. Will the tool help educate people about the land use issue? 1 2 3 4
Why or why not?
3. Does the tool reflect a "group effort?" 1 2 3 4

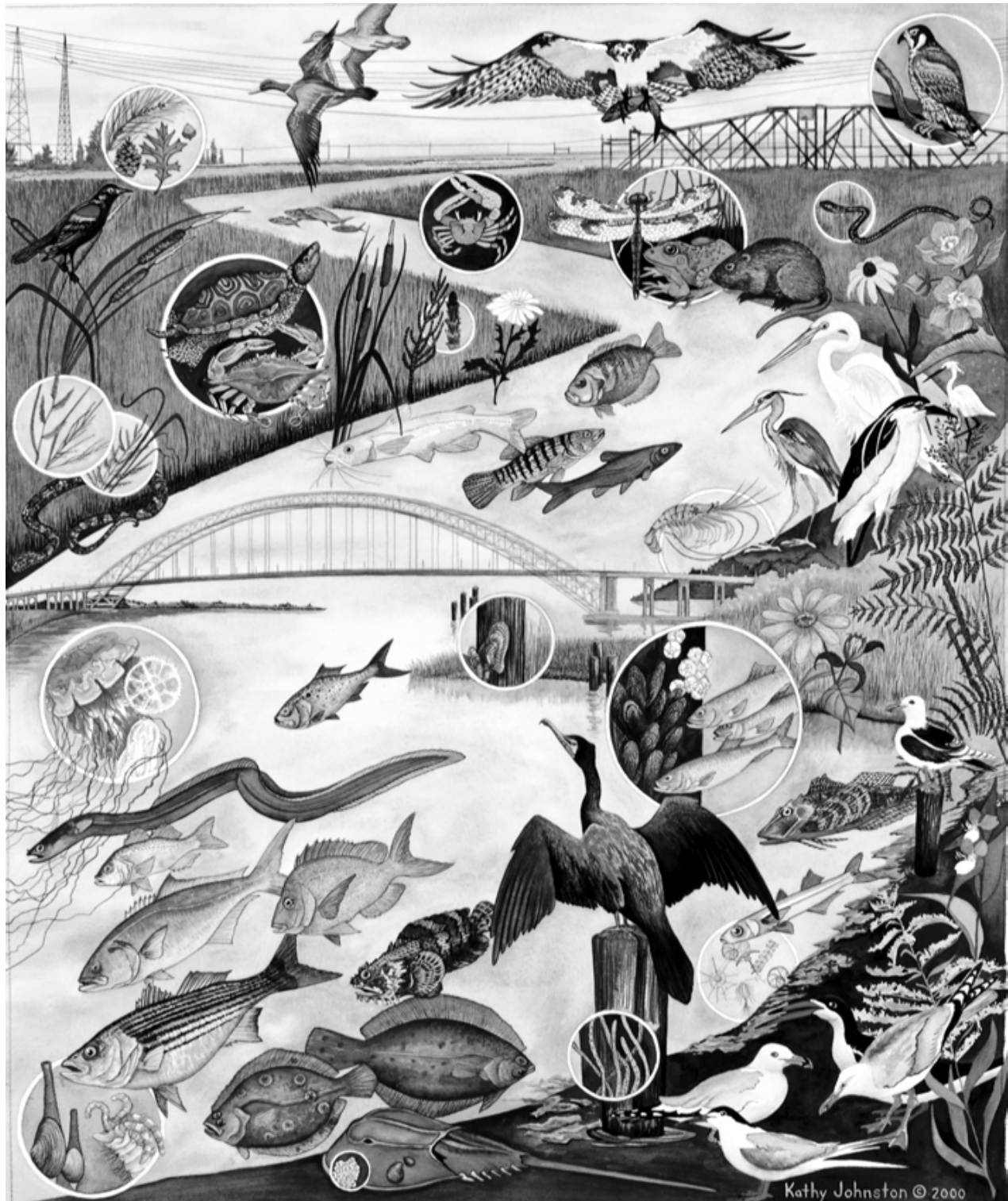
Rate each aspect of the group presentation on a scale of 1 to 5. Circle the best response.

- 1 Poor**
- 2 Fair**
- 3 Good**
- 4 Very Good**
- 5 Excellent**

- | | | | | | |
|--------------------------------|---|---|---|---|---|
| Creativity | 1 | 2 | 3 | 4 | 5 |
| Organization of Information | 1 | 2 | 3 | 4 | 5 |
| Organization of Presentation | 1 | 2 | 3 | 4 | 5 |
| Group Effort and Participation | 1 | 2 | 3 | 4 | 5 |



WILDLIFE OF THE HARBOR ESTUARY'S NEWARK BAY COMPLEX



IDEAS FOR USING THE POSTER

Create an informational display about the Fish Consumption Advisories. Identify the Advisory species, create a method for highlighting which animals are listed in the Advisories and develop information cards that explain why the animals are included in the Advisories.

Use the poster as a centerpiece for a wall mural. Have each student select an animal or plant, learn more about it, and create a "biography" for species. Connect the biographies to each species on the poster using string.

Have the students create a sample food chain and/or food web using the species on the poster. Identify each species as producer, consumer, decomposer or scavenger.

Identify the animals and plants according to species and classify them according to groups (birds, fish, amphibians, etc.). Create a Newark Bay Complex checklist to distribute to the students and their families.

Write a poem, haiku or prose about the natural habitats and human made environments depicted in the poster and the animals and plants that live there.

To order color copies of this poster (24" x 36") contact:

New Jersey Department of Environmental Protection
Division of Watershed Management
PO Box 418
Trenton, NJ 08625
(609) 292-2113

